Modeling Personalized Learning Environment and Students Engagement (PLEaSE)

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Abstract

To design a personalized learning environment a teacher has to conduct a thorough instructional design, models the ICT culture and behaviour and provides scaffolding that eventually frees the learners to be creative and to take responsibility for their learning. This paper will present a Personalized Learning Environment and Students Engagement (PLEaSE) project that examines ways of embedding technology and empowering learners to become co-designers of their learning. One of the ways is to engage the lecturers in the design of the learning environment.

This paper shares an initiative that models PLEaSE through a blended learning approach designed to help university lecturers to engage students online. The objectives are for lecturers to: 1) Apply some principles of instructional design that engage learners in blended learning environments; 2) Identify strategies that encourage active student participation online using the phases of engagement model, and 3) Examine issues related to sustainability of online community learning.

To date we have conducted six training sessions in four different higher education institutions in Malaysia. Each session provides us with an opportunity to reflect on our practice and improve the training and delivery of the subsequent workshops through action research.

The participants are academic staff from different disciplines, teaching in both undergraduate and postgraduate programmes. The participants are registered online a week before the session and are requested to complete an online survey with the purpose to profile and identify their needs. To prepare for the workshop the participants are also invited to read the materials posted on the site and to visit links related to instructional design theories and principles.

The training consists of four parts, where each part is a demonstration of the application of the phases of engagement model by Conrad and Donaldson. The design and the engagement phases are demonstrated through the use of relevant examples, discussions and reflections, face to face and online. Data is collected from the online observations, online questionnaire and forums. The feedback and comments from the participants have shown that the training is useful and the engagement model is suitable for their own online courses.

1. Introduction

E-learning was introduced to higher education institutions in Malaysia in the late 1990s. Although much investment has been made to trigger learning through technology, the transformation is yet to be achieved. In August 2007, the Ministry of

Higher Education Malaysia (MOHE) launched The National Higher Education Strategic Plan with the intention to trigger higher education transformation. One of the strategies is to improve the quality of teaching and learning. E-learning has been identified as one of the Critical Agenda Projects (CAPs) and a Key Result Area (KRA) of the Ministry of Higher Education.

In response to the need we launched a project to transform teaching and learning through the training of academic staff to use e-Learning. It is crucial that the training will significantly develop their practice of blending technology with face to face teaching through the use of student centred approaches that lead to higher achievement for students. The training is designed based on our experience developing PLEaSE (Personalized Learning Environment and Students Engagement) model for training undergraduate teacher trainees.

Personalized learning is the promotion of self-realisation, with learners considered as active and responsible co-authors of their educational script (Leadbeater, 2003). By being in-charge of the learning company, students would set their own learning targets, adopt a continuous self-assessment for learning and develop the flexibility in learning beyond the classroom. In a way the learners are supported to become self-organized (Kalz, Rob and Hornung-Prähauser, 2009).

The principles of personalized learning (Leadbeater, 2004) are consistently researched, repackaged and refined by several research bodies such as DfES (Department for Education and Skills) Innovation Unit; Demos, an independent organization in UK; and National College for School Leadership-UK (NCSL), to comply with the recent education situation.

British Educational Communications and Technology Agency (BECTA) has outlined clearer constructs for personalization to meet the needs of 21st century learning and teaching (BECTA, 2005). They include:

- Tailoring content to user needs and learning styles.
- Continuity of learning and out-of-hours learning.
- Supporting anytime, anywhere learning.
- Enabling peer/mentor dialogue.
- Assessment for learning.
- Involving learners in their own learning.

This paper aims to share our experience of engaging academic staff with e-Learning based on a workshop "Designing for PLEaSE-ing with LMS" conducted by Academic Development Centre (ADeC), University of Malaya (UM). This workshop is one of the centre's strategies to encourage academics to focus their teaching on students learning. In this workshop, academics are taught to conduct a thorough instructional design, model the ICT culture and behavior and provide scaffolding that eventually frees the students to be creative and to take responsibility for their learning.

PLEaSE is a project to develop personalized learning environment using Web 2.0 tools to engage students in their learning through reflection, knowledge construction and social interaction. From the project we found that to successfully integrate technology lecturer/instructor has to be able to: 1) please students, have faith in them and support their learning through coaching and mentoring; 2) model the philosophy, the use of the strategies and the use of the supporting technology; 3)

engage students in learning through careful instructional design and development, taking into consideration students readiness, prior ICT skills, time management and appropriate reward system; and 4) support online learning through scaffolding, regular feedback and monitoring of student learning (Raja Hussain, 2011).

2. The PLEaSE workshop

2.1 Background to the problem

We believe that getting learners to engage with learning on the LMS or other Web 2.0 platforms depends on how the learning environment is designed and supported. Over the years, academics in UM have used LMS as a repository of lecture notes, a space for announcement and a place for students to retrieve information. With the introduction of our new LMS on Moodle platform, academics are now more willing to use the LMS as a place for discussion and as a platform for learners to engage in creating and sharing new knowledge through collaboration and social interaction.

We have set the e-Learning system in UM so that every course offered during the semester is automatically made available for the lecturers and students to use. Registered students are automatically listed in the course. The onus is on the lecturer to design and personalize the course to meet the needs of his/her students.

Our responsibility at ADeC is to support academicians to use e-Learning by providing training, consultation and a helpdesk. Over the last two years we hear many complaints from lecturers related to students not engaging with the online courses. In order to understand what happened, as administrators of e-Learning, we visited the online courses to look for the elements of PLE. We examined the pages to see the types of activities conducted by the lecturers and students. We found that courses can be placed into 5 categories based on the PLE related activities in the course pages:

1. The course page is empty – No activity, nobody home. The lecturer and students never signed in.
2. The course page is used as a repository for course materials – There is some lecturer's activity. Lecturer or tutor upload materials related to the weekly contents or lectures. These materials are for the students to read and download at their own convenience. Instruction is most likely given to students during face to face lecture.
3. The course page contains course materials and instructions – Instructions are mostly one-way communication from the lecturer, with a purpose to remind students about the readings or tasks, change in class time and venue, and assignment deadlines.
4. The course page contains course materials, instructions, assignments and forums started by the lecturer – There are activities to engage students in learning. The purpose is to invite students to participate in the discussion. There are attempts to support student learning, however, students are not obliged to participate.
5. The course page is a personalized learning space, where activities are designed with the purpose to engage students in their learning. Activities empower students to take charge of their learning through planned activities, assignments and projects involving collaborative groups and teams. Lecturer

and tutors work hand in hand with the students, modeling the culture and creating a community of learners.

Our analysis helped us to understand the needs for a training program or an intervention that would help the lecturers to close the gap in knowledge and skills related to online teaching. Thus the workshop on "Designing for PLEaSE-ing with LMS" was designed with the intention to model the course that meets the requirement of a level 5 and to provide an environment where lecturers will experience the learning that they can then model for their teaching. Experiencing e-Learning from the learner's perspective is immensely helpful, if not essential, for effective e-teaching (Kelly, 2009).

2.2 Workshop objectives

A well designed Personalized Learning Environment (PLE) will take into consideration students motivation, their readiness to learn and provides appropriate support that enables both student and lecturer to build a successful community of learning. Lecturer/instructor guides the students to use technology creatively to allow for them to co-design their learning spaces. Thus, allowing students to hold the role of a manager and take ownership of their learning and be responsible to their own created learning outcome. Therefore, we developed the workshop "Designing for PLEaSE-ing with LMS" with the aim to fulfill the students' plea to lecturers to engage them in their learning.

In this one-day workshop the participants learn how to effectively use LMS in achieving optimum delivery by engaging in a PLEaSE-ing experience. The objectives of the workshop are to enable the participants to:

1. Apply some principles of instructional design that engage learners in blended learning environments.
2. Identify strategies that encourage active student participation online using the phases of engagement model, and
3. Examine issues related to sustainability of online community learning

In the workshop, the trainer shared her experience of PLEaSE-ing the students by pedagogically adopting the LMS to complement what she has been doing in face-to-face teaching. Therefore, the personalized learning environment during the workshop involves both online and face-to-face environment demonstrating an implementation of a blended learning pedagogy. As in face-to-face teaching where interactivity is a big concern, same goes for online teaching whereby there also needs to be a two-way communication.

In this workshop, participants are taught how to move away from the usual practice of uploading and downloading course notes from the LMS to become a designer of a learning environment. They were taught how to engage students by applying the phases of engagement principles which can help transform a learner from being a passive receiver of information to an active creator of new knowledge.

3. Phases of Engagement Model

Although today's learners are familiar with the latest technology, it is a big mistake to assume that students are able to master the technology for learning without our help. Berge & Collins (1995) mentioned that there are essentially two kinds of

interaction with regard to learning. One is a student individually interacting with content. The other is social activity: a student interacting with others about the content.

The instructor plays an important role in providing an environment in which both kinds of interaction occur. She has to guide and enforce the process of creating and establishing rapport with fellow students and tutors. The nurturing will lead to students becoming comfortable with the online environment. Therefore, this workshop draws on a level-mapped instructional journey adapted from the 4 Phases of Engagement model (see Figure 1) by Conrad and Donaldson (2004), which builds and shapes the initiation of engaged learning while maintaining it through in an online environment (Raja Hussain & Ng, 2010).

According to Conrad & Donaldson (2004) Engaged learning is a collaborative learning process in which the teacher and student are partners in constructing knowledge and answering essential questions. This strategic approach includes setting goals, establishing time lines, and creating and assessing authentic products. Key elements of engaged learning in an online environment include:

- Students establishing their own learning goals
- Students working together in groups
- Exploring appropriate resources to answer meaningful questions
- Tasks that are multidisciplinary and authentic, with connections to the real world
- Assessment that is ongoing and performance-based
- Products that are shared with an audience beyond the classroom, adding value outside of the learning environment.

Within each phase, the teacher wears a different hat, playing different roles in giving out appropriate instructions.

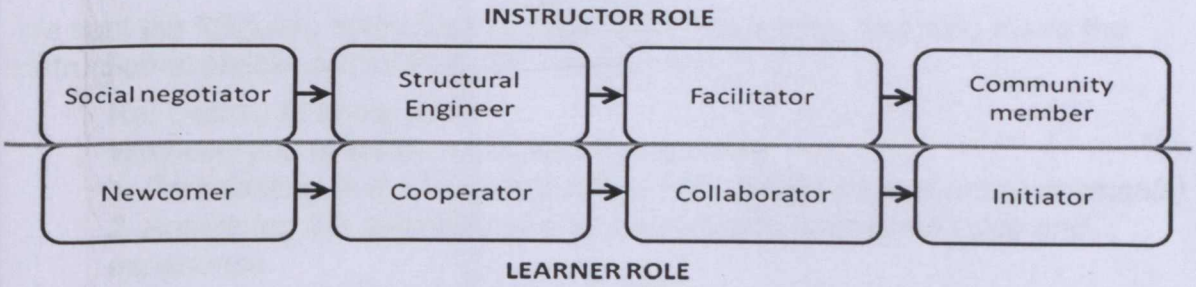

Figure 1: Phases of Engagement model (Conrad and Donaldson, 2004)

The phases of engagement as applied in the workshop are described in the next section.

4. Flow of the workshop

We divided the workshop into six parts. Each part is accompanied by specific activities designed to assist the participants in understanding how each level works. One week before the training the participants are registered into the PLEaSE course

page and are required to complete a few pre-workshop activities. The purpose of the activities is to profile the participants and to get the participants to be familiar with the online training platform, Moodle (Figure 2). We assumed that the participants would have the pre-requisite knowledge of the LMS through attendance of e-Learning training related to the technical aspect of the LMS. The training on LMS is not limited to Moodle as there are similarities in the tools available in the LMS (example, Webcity, Blackboard and Learning Care) subscribed by the higher education institutions in Malaysia.

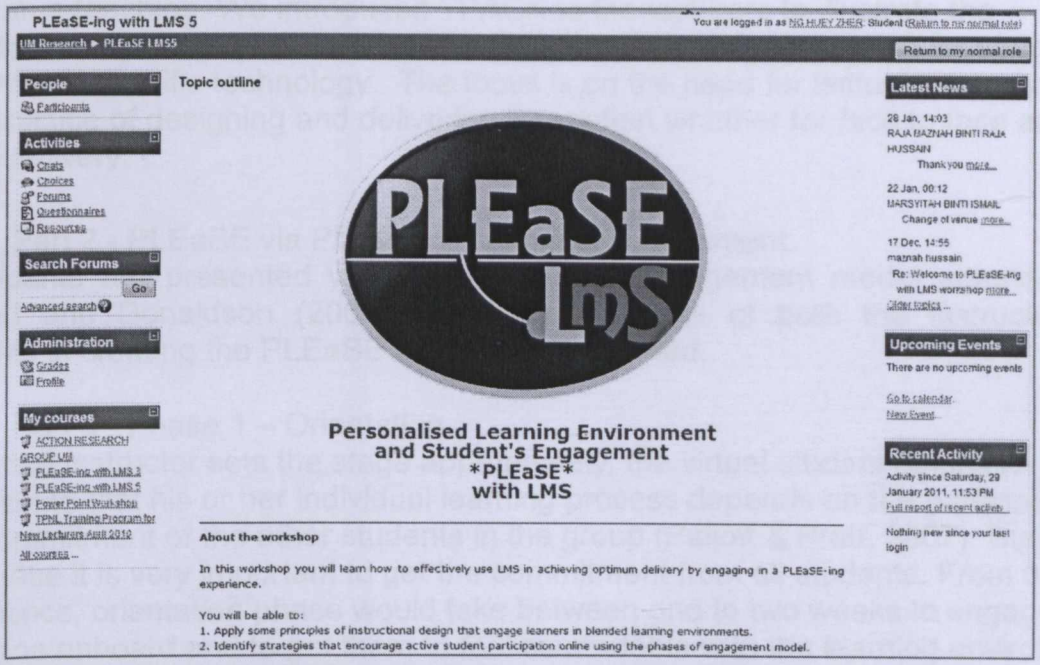

Figure 2: PLEaSE on MOODLE platform

We sent the following instruction to participants via e-mail, and also made the instruction available on the PLEaSE course page.

> Re: Getting to know you
> *We need you to tell us more about yourself by:*
> *1. Participating in the Welcome forum (General news and announcements)*
> *2. Answering the questionnaire on participant's prior knowledge and experience*
> *3. Sharing your philosophy of technology in the classroom and*
> *4. Completing your profile (Please edit your profile)*

4.1 Part 1 – Introduction

The participants are introduced to the workshop and its objectives. As an icebreaker, each participant is given three sheets of colour sticky pad to write down three questions that they would like to be answered in the workshop. We grouped the participants based on the paper colour. Each group is asked to analyse the questions and to put them into categories. They are to find the answers before presenting to the floor. The leader will present while the scriber will take note of everything and present the summary in the group forum online. This activity models the use of online forum to support face to face group activities. This activity also

serves as a form of a quick data gathering activity for learner analysis to identify the group needs. Through answering the group questions, the participants get to know each other and they get to share their knowledge and experience.

Next, we introduced the participants to learning theories, principles of instructional design, PLEaSE and TPACK (Technology, Pedagogy and Content Knowledge) by Mishra & Koehler (2006) and the relationships between them. The participants are asked to reflect on the behaviorist and the constructivist learning theories and on how they have applied the theories in their own teaching and how they are going to apply on e-teaching. We introduced TPACK to the lecturers to illustrate the importance of pedagogical content knowledge in designing instruction for specific content and specific technology. The focus is on the need for lecturers to reflect on their practice of designing and delivering instruction whether for face to face and online delivery.

4.2 Part 2 - PLEaSE via Phases of Learning Engagement

Participants are presented with the phases of engagement model adapted from Conrad and Donaldson (2004). The different roles of both the instructor and students in creating the PLEaSE in LMS are explained.

4.3 Part 3 - Phase 1 – Orientation

When the instructor sets the stage appropriately, the virtual student begins to understand that his or her individual learning process depends on the participation and commitment of the other students in the group (Palloff & Pratt, 2007). During this phase it is very important to get the commitment from all students. From our experience, orientation phase would take between one to two weeks to engage everyone onboard and to get them to feel comfortable with the learning environment. Activities to model orientation include presentation of examples and hands-on sessions in designing instructions for the start of the course in relation to:

1. Learner's profile – each participant completes his learner profile online.
2. Course expectation in lieu with the technology used – each participant evaluates welcome messages and writes a welcome message for her course.
3. Informing students of assignments e.g. instructions, assessment and formative evaluation.
4. Guiding students on how to use available functions in technology of choice.
5. Giving students the assurance, making sure that no one is left behind.

4.4 Part 4 – Phase 2 - Construction

Evaluation and assessment are important in the student centered learning-teaching process. Assessment embedded in the class activities and in the interaction between learners and between learners and teachers helps in the construction of new knowledge. In the construction phase, the teacher dons the engineer hat; setting up the frame, building ladders for the students to cross from one stage to another, and putting the necessary bolts and screws at loose places. In this process, the instructor informs the students every step they need to follow (Raja Hussain & Ng, 2010).

Participants are presented with examples of how a lecturer as structural engineer models the appropriate behavior that motivates and brings the students together. They are also presented with the types of assessment and feedback that encourage

team work and construction of knowledge. The participants are given opportunities to design feedback using LMS functions such as forums and wikis.

4.5 Part 5 – Phase 3 – Collaboration

In sustaining collaboration, the lecturer wears the confidant hat, instructing the students to cooperate and collaborate. Guidance, praises and positive comments are given to jobs well done or for simply trying. While working as a team, the students are given the rein to steer the tool. With the empowerment, students need the right amount of motivation to ensure proper navigation (Raja Hussain & Ng, 2010).

Communications between peers are less threatening compared to those which involved supervisors or authorities (Ladyshewsky and Gardner, 2008). Hence, enhanced disclosure, discussion and deeper learning outcomes are possible. We showed participants the steps and examples to develop and sustain peer learning. They are also given opportunities to design activities that sustain peer-to-peer learning.

4.6 Part 6 – Phase 4 – Initiation

The lecturer empowers the students to take the lead. Empowerment enables the students to control and develop their own learning (Harvey, 2004). The lecturer as a community member takes a step-back from the limelight. Participants are led to discuss different ways of identifying leaders among students and how to create a safe and sustainable environment for students to lead. A chat activity is prepared for the participants to discuss the issue of letting go and the extent to which a lecturer should let go.

5. Feedback from the participants

For every workshop conducted, we built in a debriefing session. We asked the participants to give us feedback face to face and also through the use of questionnaire online. The participants rated the workshops high on a scale of 1-6 in the areas of 1) achievement of the objectives (mean=4.6), 2) improvement in their understanding of the subject (mean=4.7), 3) increase in knowledge and skills (mean=4.5), 4) training content (mean=4.6), 5) training delivery (4.7) and 6) the facilitator (mean=5.2).

We asked for open comments from the participants. This is to help the participants to reflect on their learning and for us to understand what they learnt and how they made meaning of their experience. The participants indicated that they have enjoyed the sessions and have gained new knowledge and that they have learnt new tools as shared in the following excerpts:

> *I managed to learn about other ways (that probably existed) to engage the students online. I will try these methods out in future*
>
> *...how to use LMS as tools to engage students in group discussion and presentation*
>
> *Discovering and re-discovering tools which can be used to facilitate a blended learning environment.*

They participants also said that the session has sparked new ideas and that they have learnt techniques to be tested with their students in their own online teaching such as:

> *Setting up Moodle has allowed my imagination to go wild with more ideas on how to make my classes more interesting and relevant to the gen net ie. Learning about forums, chat, grouping.*
>
> *Chat session, but in general this workshop has given me some new ideas in approaching my students.*
>
> *I found some of the techniques about how to get students to participate actively in learning process through e-Learning platform useful and applicable in my courses.*
>
> *Assignments were nice and useful and the way of delivery is very interesting.*

The blended pedagogy has helped the participants to see the value of communicating with the students as they themselves were empowered during the workshop:

> *How to interact/respond with students be it online or face to face.*
>
> *Posting my thoughts and other people respond to it.*
>
> *I enjoy looking at how we actually can make students so engaged to the online communication through the examples given by Prof, I am excited to try this with my students.*
>
> *The discussion parts were the most interesting especially when the participants were given the chance to use the chat program. Although we did not always adhere to the topic, it allowed us the freedom of expression and a sharing of knowledge which otherwise might not have happened if the whole workshop had been conducted in a traditional learning type of way.*

The workshop has succeeded in planting the seeds of new ideas in the participants. The experience has opened up new possibilities for them to be more creative with the ways that they engage their students, be it face to face or online. The participants gave some valuable comments and suggestions that will help us to improve the workshop. Some participants have indicated in the following excerpts that they needed more time:

> *It would be good if we could have more group work and more time for discussion.*
>
> *More time to do activities.*
>
> *Perhaps more time can be given, eg. Day 3 to really develop at least one of our courses online and see that it is pasted up and ready to be used for our upcoming semester.*

The participants have also indicated that they needed examples specific to their discipline as it would help them to transfer the learning better:

> *Some examples which are specific for the field/area of specialization may give me a better idea on how to move on after this session.*
>
> *Some examples in teaching engineering topics.*

Besides asking for more examples and more time, the participants wanted to see more videos and games included in the training:

> *Some videos related to the topic will be good to include.*

May be can add in more videos for the explanation.

More games and activities, It makes me more understand.

From the comments, it seems that a one day workshop is too short to satisfy the needs for group discussions and preparation of their own courses. There is also a need to find examples from different disciplines, and to also add variety to the presentation materials.

6. Lessons learnt

To date we have conducted six training sessions involving 120 lecturers from four universities in Malaysia. Each workshop is a learning journey for us to further develop the training materials, the presentation and the activities. The first time we conducted the training, we did not specify the prerequisite skills for the lecturers. It was assumed that they would have basic knowledge of LMS and that they know how to use the tools available in the LMS.

In the first workshop we spent half the morning to register participants into the PLEaSE website, to profile the participants and to make sure that they have the right skills and knowledge to participate in the workshop. Some participants have never attended any training on how to use the LMS specifically Moodle. However, as Moodle is user friendly and easy to use, the participants had very little problems in engaging with Moodle.

In the subsequent workshops we had to make it very clear to the organizers of our requirement in relation to the participants' experience in using an LMS. To enable us to profile the participants, we pre-register the participants, provide (e-mail) them with usernames and passwords and request that they complete the profile and read the posted materials one week before the workshop. Although, the message was sent out early, we still found some lecturers who did not read their emails and came unprepared. Our experience of designing the workshop and managing it was shared with the lecturers as a lesson learnt in managing and sustaining the online learning.

We had to modify the training materials several times, especially the content to deliver and the content that the participants can read on their own. As the workshops are conducted in computer labs, the lecturers expected less lecture and more hands-on activities. Hence, the activities are conducted by blending face to face explanation of the instructional design principles and learning theories relevant to the activities followed by hands-on experience online and a face to face debriefing.

Our challenge was to design activities and provide examples relevant to all disciplines. In preparation for the workshop, we searched the courses online in UM and in another university for examples that we could use to explain the phases of engagement. It was a difficult task as most courses are not designed for student centered learning. We had no choice but to use examples from our own courses (Education) and help the participants to relate and reflect on their own practice and apply what they learnt from our examples to design their own PLE.

We hope to be able to visit the courses designed by the participants who have attended the workshops soon. We have planned to reconnect with the participants to find out if there was a transfer of learning. This will help us to assess the workshop design and to further refine the workshop.

We are also in the midst of putting together a guideline to PLEaSE which will be made available online. We hope to provide a framework for lecturers to apply the

principles when they design their online courses. It is hoped that the guideline will help those lecturers who do not have time to attend the face to face workshop.

6. Conclusion

As an innovation, personalized learning environment is a change that has to be managed. Transforming the traditional learning environment to a personalized learning environment requires scaffolding from the lecturers/instructors who can provide guidance through mature thinking, patience and intentional support (Raja Hussain, 2011). We have learnt that engaging students to actively participate in their learning process requires patience and a thorough knowledge of instructional design. It is our hope that the training that we designed can help other academic staff to make their e-teaching and their students' e-learning a pleasing experience.

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